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Dumitras et al.

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(54) **SYSTEM AND METHOD FOR ENCODING
AND DECODING USING TEXTURE
REPLACEMENT**

(58) **Field of Classification Search**
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H04N 19/147; H04N 19/119;
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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 15 days.

This patent is subject to a terminal dis-
claimer.

(56) **References Cited**
U.S. PATENT DOCUMENTS

5,097,427 A 3/1992 Lathrop et al.
5,204,920 A 4/1993 Moran et al.
(Continued)

OTHER PUBLICATIONS

“Video Coding for Low Bit Rate Communication, H.263”, Feb.
1998, *ITU-T Recommendation H.263*, Series H: Audiovisual and
Multimedia systems, Infrastructure of audio Visual Services—
Coding of Moving Video.

(Continued)

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(57) **ABSTRACT**

The invention provides devices and methods that process images. The invention processes a received signal representing information of texture and information of an image, which has the texture removed from at least one region. The image information is encoded to obtain encoded information of the image. An output signal is generated representing the texture information and the encoded image information. In another embodiment, the invention synthesizes texture based on the received texture information, decodes received image information, which is encoded, to obtain a decoded image, and then maps the synthesized texture onto the decoded image.

20 Claims, 8 Drawing Sheets

